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EXAMINER

KO, TONY

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,245	Applicant(s) BOEHLAU ET AL.	
	Examiner Tony Ko	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11 and 15-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11,15-17,19-23 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 10,18 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 recites the limitation "the device" in line 3. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how the receiver device matched to a shape of a total radiation front jointly generated by the transmitter modules. It is unclear what part of the receiver device is matched to a shape of the radiation. That is, it is unknown to match the shape of the detector, or the shape of the individual detecting element to the radiation.
4. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of "preferably", "in particular" renders the claim indefinite because it is unclear whether the limitation following the phrase are part of the claimed invention.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4-9, 11,15-17,19-22 and 25-27 are rejected under 35 U.S.C. 102(b)

as being anticipated by Wangler (U.S. Patent 5,793,491).

3. Regarding claim 1, Wangler discloses (Figs. 3 and 4) an optoelectronic sensing device, comprising a transmitter device (200) for the transmission of electromagnetic radiation, at least one receiver device (400) associated with the transmitter and at least one deflection device (302), with which radiation transmitted by the transmitter device can be directed into a monitored zone and radiation reflected from the monitored zone can be directed onto the receiver device, characterized in that the transmitter device includes a plurality of transmitter modules (202), which are spatially separate from one another (202 are located in different side of the polygon) and which each transmit radiation along their own propagation path, the transmitter modules are aligned such that fronts of the transmitted radiation together form a total radiation front in the monitored zone which is larger than the fronts of the transmitted radiation from one of the transmitter modules and can be controlled for alternate transmission of radiation pulses; and the deflection device (polygon) has at least one planar reflection surface (polygon consists of several faces) for radiation transmitted by the transmitter modules and reflected from the monitored zone with the radiation transmitted by the transmitter modules and the radiation reflected from the monitored zone being incident on the reflection surface at regions spatially separate from one another, the deflection device

(polygon) rotatable configured to carry out a continuous rotary movement at a constant rotational speed.

4. Regarding claims 2, as understood, Wangler discloses the propagation paths of the radiation transmitted by the transmitter modules extend free of overlap in a region near the device.

5. Regarding claim 4, Wangler discloses the transmitter modules are each made for the transmission of an elongated radiation front, with the elongated radiation front being a continuous radiation line or being formed by discrete radiation spots arranged along a line (by scanning of the polygon).

6. Regarding claim 5, Wangler discloses the transmitter modules each include at least one laser diode (202) as a radiation source which is designed for the transmission of a line-shaped radiation front.

7. Regarding claim 6, Wangler discloses an optical transmitter (collimating lens) is positioned in front of each transmitter module.

8. Regarding claim 7, Wangler discloses the transmitter modules and/or optical transmitter systems positioned in front of the transmitter modules are made of the same construction. That is, the construction of the transmitter modules comprising laser diode and laser driver.

9. Regarding claim 8, Wangler discloses a common receiver (optical receiver) is associated with the transmitter.

10. Regarding claim 9, as understood, the receiver device is matched to a shape of a total radiation front jointly generated by the transmitter modules.

11. Regarding claim 11, Wangler discloses an optical receiver system is associated with each receiver device and is disposed in a common transmitter/receiver plane (the plane where 305 is located) together with optional transmitter systems (206) positioned in front of the transmitter modules.

12. Regarding claim 15, Wangler discloses a reflection surface (302) of the deflection device extends at an inclination to a common transmitter/receiver plane (where 305 is located) of the transmitter modules and of the receiver device and in that the deflection device is rotatable around an axis extending approximately perpendicular to the transmitter/receiver plane.

13. Regarding claim 16, Wangler discloses the transmitter modules (202) are arranged adjacent to the receiver device (detector).

14. Regarding claim 17, Wangler discloses (Fig. 3) the transmitter modules (202) are arranged symmetrically on oppositely disposed sides of the receiver device.

15. Regarding claim 19, Wangler discloses the spacing between transmitter modules is maximized such that the radiation transmitted by the transmitter modules is deflected by marginal regions of the deflection device.

16. Regarding claim 20, Wangler discloses the propagation path of the radiation transmitted by at least one transmitter module (202), and the receiving path of the radiation reflected from the monitored zone and directed onto the receiver device, extend free of overlap (116) in a near region of the sensing device.

17. Regarding claim 21, Wangler discloses the transmitter modules can be controlled for the alternate transmission of radiation pulses. That is, laser is pulsed source.

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18. Regarding claim 22, Wangler discloses method for the operation of an optoelectronic sensing device, in particular a laser scanner, comprising a transmitter device (202) for the transmission of electromagnetic radiation, preferably pulsed electromagnetic radiation, at least one receiver device (detector) associated with the transmitter device and at least one deflection device (300), with which radiation transmitted by the transmitters device (202) and at least one deflection device (300), with which radiation transmitted by the transmitters device can be directed into a monitored zone and radiation reflected from the monitored zone (116) can be directed onto the receiver device, wherein the transmitter device includes a plurality of transmitter modules (202s), preferably precisely two transmitter modules, which are spatially separated from one another and which each transmit radiation along their own propagation path, and wherein the transmitter modules are controlled such that the transmitter modules transmit the radiation with a time offset and in particular alternately in the form of radiation pulses in each cases.

19. Regarding claim 25, Wangler discloses the device is defined as a laser scanner.

20. Regarding claim 26, Wangler discloses the plurality of transmitter modules is further defined as two transmitter modules (two laser diodes)

21. Regarding claim 27, Wangler discloses the optical transmitter system is in the form of a lens (206).

Claim Rejections - 35 USC § 103

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22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Wangler in view of Strickland (U.S. Patent 5,231,393).

24. Regarding claim 23, Wangler discloses the sensing device comprising a transmitter device (200) for the transmission of electromagnetic radiation, at least one receiver device (400) associated with the transmitter and at least one deflection device (302), with which radiation transmitted by the transmitter device can be directed into a monitored zone and radiation reflected from the monitored zone can be directed onto the receiver device, characterized in that the transmitter device includes a plurality of transmitter modules (202), which are spatially separate from one another (202 are located in different side of the polygon) and which each transmit radiation along their own propagation path, the transmitter modules are aligned such that fronts of the transmitted radiation together form a total radiation front in the monitored zone which is larger than the fronts of the transmitted radiation from one of the transmitter modules and can be controlled for alternate transmission of radiation pulses; and the deflection device (polygon) has at least one planar reflection surface (polygon consists of several faces) for radiation transmitted by the transmitter modules and reflected from the monitored zone with the radiation transmitted by the transmitter modules and the radiation reflected from the monitored zone being incident on the reflection surface at

regions spatially separate from one another, the deflection device (polygon) rotatable configured to carry out a continuous rotary movement at a constant rotational speed. Wangler does not teach to attach such speed sensor on a vehicle. Strickland discloses (Fig. 4) to attach speed meter to a vehicle. It is well known to attach speed measurement device to a vehicle. It would have been obvious to a person of ordinary skill in the art at the time of the invention to place a speed measurement device on a vehicle to make it portable to detect speed of other vehicles in alternate locations.

Response to Arguments

25. Applicant's arguments with respect to claims filed on 2/02/07 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

26. Claims 10, 18 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

27. The following is a statement of reasons for the indication of allowable subject matter: Prior art does not teach the receiver device is divided to a plurality of receiver regions which can be evaluated separately from one another which each include one or more photodiodes, with at least one receiver region being associated with each transmitter module. Prior art does not teach the an axis of rotation of the deflection device extends centrally through the receiver device and the transmitter modules are

arranged equally far away from the axis of rotation. Prior art does not teach transmitting elongated radiation front in the direction of travel of the vehicle and adjusting the transmitter modules such that the elongated radiation fronts extend in a vertical direction such that an elongated vertical over radiation front is formed.

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TKO



Georgia Epps
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